Documentation and Help

The CDAT home page http://cdat.sf.net is your source for documentation– both online and printable and support. Documentation is available to help users at various levels of expertise starting with the beginning user's guide (this document) to the advanced user who needs a quick reference to commands or details of usage in the programming API reference guides. CDAT makes heavy use of Numerical Python, a fast array facility for Python. The Numerical Python website at http://numpy.sourceforge.net contains extensive documentation.

Built–In Documentation

- **Using VCDAT**

The VCDAT graphical user interface has a "help" button that provides access to all the documentation that a user may require at the click of a button. The interface also has helpful information in pop–up balloons that instruct the user when the cursor is moved over the buttons.

- **Using Docstrings**

Python also has a powerful feature: most objects in Python, including the modules, classes, and functions, have documentation strings ("docstrings") attached to them. The special attribute name "__doc__" (which has two underscores on each end) is used to access this string supplied by the module author. If you have an object x, try the command:

```
print x.__doc__
```

- **Using `pydoc` to Generate Documentation**

You can also use the `pydoc` utility. This is a standard facility for extracting documentation from Python installations. You can generate Python documentation in HTML or text for interactive use.

- **Interactive Use**

In the Python interpreter, do `from pydoc import help` to provide online help. Calling help(thing) on a Python object documents the object. Also, typing help() will put the user in a help environment indicated by the prompt changing to

```
help>
```

- **From the Shell**

At the shell command line outside of Python: Run `pydoc <name>`; to show documentation on something. `<name>` may be the name of a function, module, package, or a dotted reference to a class or function within a module or module in a package. If the argument contains a path segment delimiter (e.g. slash on Unix, backslash on Windows) it is treated as the path to a Python source file. Run "pydoc –k <keyword>" to search for a keyword in the synopsis lines of all available modules.

- **Starting a Browser / Server**

`pydoc -g` starts an HTTP server and also pops up a little window for controlling it.

- **Writing out HTML**

Run `pydoc -w <name>` to write out the HTML documentation for a module to a file named "<name>.html".

- **Using `happydoc`**

A utility named `happydoc` is able to generate documentation for modules written in Python.

Printable Documentation

- **Quick Start Guides**

The documents cdms_quick_start.pdf and vcs_quick_start.pdf provide a quick look at useful commands in the core CDAT modules; cdms and vcs respectively on a single page that is useful even to the experienced user.

- **Programming Reference Guides**

The core CDAT modules cdms and vcs are extensively documented in separate documents that can be downloaded from http://cdat.sf.net. The most up−to−date versions of the following guides can be found there:

- cdat.pdf : This document
- cdms.pdf : Climate Data Management System
- vcs.pdf : Visualization and Control System: Python Command Line and Application Programming Interface
- cdat_utilities.pdf : CDAT Utilities Reference Guide
- numpy.pdf : Numerical Python
- vcs_quick_ref.pdf A one page reference to VCS commands.

Getting Support

The CDAT Home Page is http://cdat.sf.net. CDAT is hosted at SourceForge, a free service provided by VA Linux, Inc. to the Open Source Community. SourceForge enables us to provide the following services for users:

- A release facility, where users can download binary and source releases and see release notes.
- A bug−tracking facility, where users can submit bugs and track their status, and receive mail when they are fixed.
- A facility to request feature enhancements.
- A mailing list for discussion (cdat−discussion@lists.sf.net).

You can use these facilities without registering at SourceForge, but registration, which is quick, easy, and free, will enable you to participate in the fullest possible way. In particular, it is very helpful to us if you are registered when you submit a bug report.